

Remarks/Arguments

As of the Office Action of January 25, 2008, claims 7, 9, 10 and 12-17 and 19-20 remain pending. Applicants appreciate the Examiner's review of the present Office Action and respectfully request reconsideration and allowance in view of the following comments. Dependent claim 12 has now been cancelled. Accordingly, claims 7, 9, 10, 13-17 and 19-20 remain pending.

As an initial matter, claim 7 has been amended to recite that the structuring agent is selected from the group consisting of clay, silicates and silicas, phospholipids, pillared-like materials, metal salts, nanoplatelets, and mixtures thereof. Support can be found at paragraph [0028] of the published application. Accordingly, no new matter has been entered.

Claim Rejection – 35 U.S.C. § 103

Claims 7, 9, 10, 12-17 and 19-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,176,903 to Goldberg et al (hereinafter "Goldberg"). Applicants respectfully request reconsideration and allowance in view of the following comments.

Independent claim 7 (from which all other pending claims depend) recites:

7. A microencapsulated material, comprising:
a core component, wherein said core component is at least one of oxygen sensitive or water sensitive; and

a shell component encapsulating said core component, wherein said shell component comprises a polymer material and a structuring agent having an average particle size from about 0.1 to about 1 μ m dispersed into said polymer material at a level of about 1 to 50 % by weight of the shell component, wherein said polymer material comprises pendant ionic groups that form an ionic bridge with said dispersed structuring agent, wherein said structuring agent decreases oxygen and water permeability through said polymer material and wherein said structuring agent is uniformly dispersed in said polymer material , wherein said structuring agent is selected from the group consisting of clay, silicates and silicas, phospholipids, pillared-like materials, metal salts, nanoplatelets, and mixtures thereof. (Emphasis added.)

Applicants agree with the acknowledgement at paragraph 5 of the present Office Action that the “Goldberg reference fails to specify the average particle size of the structuring agent as falling in the claimed range of about 0.1 to about 1 micron.”

Applicants also agree with the acknowledgement at paragraph 4 of the present Office Action that “the reference [Goldberg] does not expressly teach or address the properties of the claimed invention,” i.e., a polymer material comprising “pendant ionic groups that form an ionic bridge with said dispersed structuring agent, wherein said structuring agent decreases oxygen and water permeability through said polymer material and wherein said structuring agent is uniformly dispersed in said polymer material.”

As such, Applicants note that the present Office Action recognizes that Goldberg:

A. Does not teach or suggest a structuring agent having an average particle size from about 0.1 to about 1 μ m; and

B. Does not teach or address a polymer material comprising pendant ionic groups that form an ionic bridge with said dispersed structuring agent.

Despite these acknowledged deficiencies of Goldberg, the present Office Action advances the view that since Goldberg discloses that an aqueous coating formulation is emulsified, the food starch and the polysaccharides and water are present in an emulsion. The Office Action then states that “[i]t is clear that the food starch will form droplets in the mixture, wherein the size of the droplets is a function of the amount of homogenizing.” The Office Action continues with the statement that “[i]t is the examiner’s position that the droplet size is a results effective variable because changing it will clearly affect the type of product obtained.” The Office Action goes on with the additional comment that “[w]herein changes in the droplet size will alter the size of the final microcapsule produced and the amount of ionic bridges formed between the structuring agent and the polymer material thus varying the strength of the coating (shell).” (Emphasis added.)

Applicants respectfully submit, however, that the above conclusion appears to be inconsistent with the earlier acknowledgements made in the present Office Action. As the present Office Action had recognized at page 3, the amount of ionic bridges formed between the structuring agent and the polymer (in the shell component) may be dependent upon the average particle size of the structuring agent. Applicants are unaware of any evidence in the present Office Action which suggests that one of ordinary skill in the art would recognize the relationship between average particle size of the structuring agent (in the shell component) and the amount of ionic bridges formed between the structuring

agent and the polymer. In fact, Applicants respectfully submit that this position is supported by the acknowledgement at paragraph 4 of the present Office Action that Goldberg does not “teach or address the properties of the claimed invention,” i.e., a polymer material comprising “pendant ionic groups that form an ionic bridge with said dispersed structuring agent, wherein said structuring agent decreases oxygen and water permeability through said polymer material and wherein said structuring agent (of the recited claim size) is uniformly dispersed in said polymer material.”

In support of the position that the instant claims are obvious in view of Goldberg, the present Office Action (at paragraph 5) refers to MPEP § 2144.05(B) regarding the optimization of a results-effective variable. Applicants note that MPEP § 2144.05(B) requires that “a particular parameter must first be recognized as a result-effective variable” before it may be proper to determine that the optimization of such a variable is obvious. (Emphasis added.) For at least the reasons alluded to above, Applicants respectfully submit that neither the present Office Action nor Goldberg is understood to teach or suggest that the average diameter of the structuring agent is a result-effective variable. Applicants respectfully submit that any recognition regarding the use of a polymer with pendant ionic groups that form an ionic bridge with a dispersed structuring agent having an average particle size from about 0.1 to about 1 μm , and its associated capability to decrease oxygen and/or water permeability, appears to have been sourced from Applicants disclosure, and does not appear at all in Goldberg.

Accordingly, irrespective of whether Goldberg inherently discloses a polymer material comprising “pendant ionic groups that form an ionic bridge with said dispersed structuring agent” (a position which Applicants expressly traverse), Applicants respectfully submit that it is improper to conclude that it would have been obvious to one of ordinary skill in the art to provide “a structuring agent having an average particle size from about 0.1 to about 1 μm ” as generally recited in independent claim 7 in view of the acknowledgments that Goldberg does not “teach or address the properties of the claimed invention” and the further acknowledgement that “the amount of ionic bridges formed between the structuring agent” would be dependent upon the average particle size of the structuring agent.

Turning now to the issue of inherency raised in paragraph 4 of the present Office Action, Applicants note that there was a suggestion that “products of identical chemical composition can not have mutually exclusive properties.” It was then suggested that the burden shifted to the Applicants to show an unobvious difference.

First, as hopefully may be appreciated, Goldberg simply does not teach or suggest anything regarding the presence of a structuring agent of about 0.1 to about 1 μm in a polymeric shell component at a level of about 1-50% by weight of the shell component. In that regard, Applicants fully understand that the Office Action has pointed to the feature in Goldberg of emulsifying a liquid core material in the presence of an aqueous solution of the coating material. However, it is not believed that this establishes that we

are dealing here with products of “identical chemical composition.” In fact, Goldberg offers no guidance regarding the mixing (or “homogenization”, as that term was used by the Examiner), and in that sense, one reviewing Goldberg would not have any instruction as to whether or not the amount/intensity of mixing (homogenization) was at all an important parameter to control or regulate with respect to final coating performance.

Furthermore, with respect to the request for a general showing of an unobvious difference, Applicants would direct attention to **Example 1** in paragraph [0061] of the published application. There, an exemplary comparison is offered regarding the feature of utilizing the structuring agent (glycerin or Kaolin) in a polymer film (Gelatin 300A). As shown, in the absence of dispersing the structuring agent in the polymer, the oxygen transmission rates (OTR) is reported at 18.09-24.54 (cc/100 in²/mil). By contrast, when dispersing the structuring agent, the values drop significantly, depending upon the structuring agent and its concentration relative to the polymer (e.g., values shown in the table for OTR at paragraph [0061] are 11.5, 3.55 and 2.84). This improvement in OTR is not disclosed, suggested, expected or predictable from Goldberg, as Goldberg is not understood to recognize that such improvement in OTR could be achieved by providing a microencapsulated material with a core component, and the use of a shell containing a polymer material and structuring agent, where the particle size of the structuring agent so dispersed is 0.1 to about 1 micron, and the feature that the polymer material comprises

pendant ionic groups that form an ionic bridge with the dispersed structuring agent. See again, claim 7.

Applicants also note that a claim limitation is inherent in the prior art only if it is necessarily present in the prior art. *Rosco v. Mirror Lite*, 304 F.3d 1373, 1380, 64 USPQ2d 1676 (Fed. Cir. 2002). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be recognized by persons of ordinary skill. See MPEP § 2112, citing *In re Oelrich*, 666 F. 2d 578, 581-582 212 USPQ 323, 326 (CCPA 1981). As may be appreciated, the same starting materials may, when combined, have very different properties depending on *how* they are combined. To this end, Applicants respectfully submit that the evidence of record is insufficient to establish that the claimed pendant ionic groups and ionic bridges are necessarily present.

Furthermore, to further distinguish the present invention from Goldberg, it was hopefully no doubt recognized that claim 7 has been amended to recite structuring agents that are not disclosed or present in Goldberg.

Accordingly, Applicants respectfully submit that claims 7, 9, 10 and 13- 20 are not disclosed or suggested by the cited reference. In consideration of the foregoing Applicants respectfully requests that the rejection of claims 7, 9, 10 and 13-20 under 35 U.S.C. § 103(a) may be withdrawn upon reconsideration.

AMENDMENT

Serial Number: 10/654,422

Filing Date: September 4, 2003

Title: Microencapsulation Of Oxygen Or Water Sensitive Materials

Page 12

Docket:SWR113631RCE2

Having overcome all of the outstanding rejections, it is respectfully submitted that the application is now in condition for allowance. Early and favourable action is respectfully solicited.

In the event that there are any fee deficiencies, or additional fees are payable, please charge, or credit any overpayment to, our Deposit Account No. 50-2121.

Respectfully submitted,

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